(2) 18.10.02. Iris hazel; bill with the upper mandible black, the sides yellowish, the lower mandible yellowish, the gape greenish blue.

This Grebe is not plentiful. It is found in still water and on ponds, and is very shy.

198. Spheniscus demersus (Linn.); S. & L. p. 789.

(1) 24.7.02. Iris dark brown; bill black, marked with pink; legs dull black, variegated with pink.

I kept a specimen of this Penguin alive for some time, and observed that the skin round the eye and at the base of the bill varied very much in colour, being sometimes pink and sometimes almost bright blue. The Penguin is rare at St. Johns, but is occasionally washed up dead after storms. It is said to breed at the mouth of the Kei River.

XIII.—*The Birds of the Island of South Trinidad.* From the Journal of Edward Wilson, M.B., Surgeon and Zoologist to the National Antarctic Expedition.

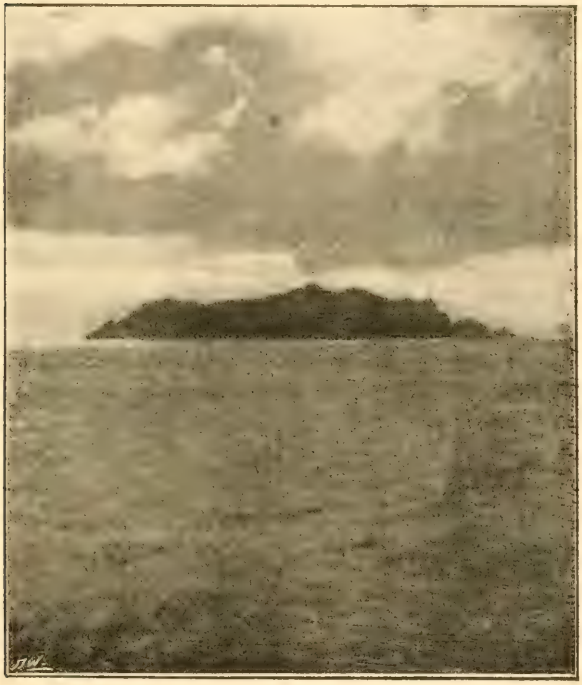
[This extract from Dr. Wilson's journal, together with Dr. Bowdler Sharpe's report on the specimens of birds obtained during the visit of the 'Discovery' to South Trinidad on Sept. 13th, 1901, was prepared in order to be read at the Meeting of the Royal Geographical Society on February 4th, 1902. But neither journal nor report could be read on that occasion, owing to press of time, and they have now been handed over to the Editors of 'The Ibis' for publication.

A very interesting narrative prepared by Dr. George Murray, F.R.S., of the adventures met with by the landing-party on South Trinidad has already appeared in the 'Geographical Journal' (vol. xix. pp. 423), together with his general remarks on the island; and we have to thank the President and Council of the R. G. S. for their kind permission to use one of the text-figures (text-fig. 1, p. 209) employed on that occasion.—Edd.]

On September 13th, 1901, before there was sufficient light to be certain that the sun was rising, the outline of the

island of Trinidad came in sight—a very bold and rocky outline,—and very soon afterwards birds began to appear. The first and most inquisitive were four or five large black birds with long narrow beaks, very long swallow-like tails, and a great stretch of somewhat narrow and pointed black wing. There was white on the breast, upper abdomen, and flanks, with one large triangular (or, rather, diamond-shaped)

Text-fig. 1.



South Trinidad in sight. (Geogr. Journ. xix. p. 424.)

patch. The head was dirty white, the throat seemed brownish or purplish at a distance. The birds sat close together, three or four of them, on the main-royal-stay. As we came closer to the island the number of individuals increased; and all over the shore and up the cliffs and sides of the hills to the very top were vast quantities of birds, of which I made out the following :—

1. The swallow-tailed bird above mentioned, which was very familiar and inquisitive.
2. The Gannet, seen only at long distances, shining out white in the sun.
3. A small, pure white Tern (*Gygis candida*), with the bill jet-black, the eyes and feet dark blue, apparently black at a distance. These Terns came fairly close to the ship and were perhaps the commonest birds round this side of the island.
4. A small, black, Tern-like bird, shaped very much like a Common Tern and of the same size—greyish black all over except for white under wing-coverts. This was by no means frequently seen and was not familiar or inquisitive; consequently no specimen was obtained.
5. A Petrel, the size of a Cape Pigeon, but greyish brown all over the upper parts and white underneath.
6. A Petrel, identical in form except that the colour was greyish black *all* over and the feet and legs quite black, instead of pinkish white and black as in No. 5.

These six were the only species that I saw here, and, next to the *Gygis*, the white-breasted Petrels were the most common. As we came close in shore we could see patches of the cliffs freely splashed with white guano.

On landing we were greeted by numbers of the white Tern, and a short way up from the shore there could be seen scattered here and there solitary young birds perched on the rocks in every stage of down and incipient feathering. Some were just hatched and some just starting their feathers, but the majority were almost ready to fly and with a good deal of provocation would attempt to do so successfully. The old birds were very tame, four or five of them flying close round our heads. Going along the shore to the west their numbers increased and I found there one of their eggs. The bird was sitting on it and continued to sit on the spot after I had removed the egg, so long as I was in sight. This egg was addled. Lieut. Shackleton brought back two other eggs

very hard-set, one of them on the point of hatching. In no case was there more than one egg, and in two instances it was laid on a bare sun-bleached boulder; in the third case on the equally bleached trunk of a dead tree. Three old birds were obtained, two of which were unfortunately stained from being buried. All the nestlings, four in number, in various stages of down, were put into formalin without being skinned. On the following morning I made a colour-sketch of the fresh foot. The beak was jet-black and the large and prominent eye also black. The entire plumage was pure white. The legs and toes were slaty blue with pale whitish webs. I take the bird to be *Gygis candida*.

The Gannet, which I suppose to be *Sula piscator*, was not seen by those who remained on the shore, but was found in considerable numbers higher up the hill-side breeding among the whitened dead trees, on the stumps of which the nests of sticks were placed from one to five feet off the ground. The birds were not shy and in some cases remained to be caught on the nest. Several nests were found to be empty: only one contained a single egg, which was obtained by Lieut. Royds, who brought it safely on board. It was perfectly fresh-laid. Mr. Skelton shot several of these birds and four skins were made. No young birds were seen by any one. It was in one of these nests that Lieut Shackleton found a leguminous plant. It was interlaced with the sticks. On the following morning I made colour-sketches of the head and feet. The skin round the eyes was vivid blue and the beak also blue but paler, running into violet in places, and at the base into red. The feet were bright salmon-pink, almost vermilion. I believe the "Booby" killed on the 12th of September to be a yearling specimen of this Gannet. In the stomach of one bird and in the throat of another were discovered parts of a flying-fish, which might have measured six inches in length. In both cases it was only the hinder half.

The Frigate-birds were not seen on shore at all, and we had to rely on those who were left on board to procure specimens. Only one was obtained, and it was made into a skin.

The Tern-like bird, black all over (No. 4), was seen once or twice on shore, but could not be procured, nor was it found to be nesting.

The white-breasted Petrel, the commonest bird on the shore itself (No. 5), was procured in some numbers. Skins have been prepared shewing many stages of white, white and grey, and wholly grey breast and under parts; but in every case, no matter how dark the breast may be, the feet and legs are pink and black, parti-coloured, and not wholly jet-black as in the species next mentioned. This white-breasted Petrel was breeding freely about the cliffs at the west end of the bay in which we landed. There was no nest-material, but the large white egg was laid in a saucer-like depression on a ledge of the rock—which was quite friable and soft, so that a depression could be easily made in it by the sitting bird shuffling about. The birds were easily caught by the hand, and three were so taken with their single eggs. Unfortunately, only one egg reached the ship unbroken, as the whole of Mr. Skelton's take of eggs was crushed in the difficulties of embarking in the evening. These white-breasted Petrels flew close over our heads and were quite unsuspicious. We could often see them chasing one another with a continuous twittering cry, and often too they would chase the black-breasted Petrels if they invaded their part of the shore, but I imagine that this was only from jealousy. There was another note, which I heard only once or twice, which reminded me of the hen Cuckoo's "bubbling" note; this came from the white-breasted Petrel. Mr. Ferrar brought in a young specimen of the white-breasted Petrel in down, which was afterwards made into a skin. It had at least half an inch of semi-fluid blubber between the skin and the flesh, almost over the whole body. All the Petrels were very fat, but none so fat as this young bird. The one egg which was brought on board was quite fresh-laid, as also were those that were accidentally broken. In skinning these Petrels one of the most noticeable things was the capacious hollow in the bird where one would expect its abdomen to be—a hollow big enough to hold its egg,

which is as big as a fowl's, though the bird itself is only of the size of a pigeon. I marked the birds which were caught sitting; one was a cock bird with a dark grey breast, not white, and with pink and black feet. The second was a cock bird with a pure white breast. The third was a hen with a wholly grey breast. All these had pink legs and pink and black feet. Therefore I conclude that the white breast is a sign of maturity, not sex, and that the younger birds of both sexes have grey breasts, just as the mature birds of both sexes have white breasts. The skins made may be arranged thus :—

1.	Dark grey breast.	Caught sitting.	♂.
2.	„ „	„ „	♀.
3.	„ „	Shot.	♂.
4.	„ „	„	♀.
5.	White breast.	Caught sitting.	♂.
6.	„ „	Shot.	♀.
7.	„ „	„	♂.
8.	White breast in down.		♀.

This Petrel I take to be possibly *Œstrelata neglecta*, but more probably the Trinidad species *Œstrelata arminjoniana*.

There was but one specimen obtained of the last species to be mentioned—the black Petrel with black legs and feet, which I take to be *Œstrelata trinitatis*. This bird was found breeding in considerable numbers well away from its white-breasted cousin, and much higher up in the island, on ledges of the cliffs of the higher parts, and in small colonies close together. The eggs were indistinguishable from those of the white-breasted bird, and a mere saucer-shaped hollow formed the nest as in the other case. There were no young. Six eggs of this bird reached the ship, but most of them were slightly cracked, owing to the fact that they were all brought down the steep mountain-side in a handkerchief, like mushrooms, and being as big as fowls' eggs they naturally suffered. They were all either fresh or very slightly incubated.

XIV.—*Report on the Birds obtained by the National Antarctic Expedition at the Island of South Trinidad.* By R. Bowdler Sharpe, LL.D., F.L.S., &c.

Dr. George Murray, F.R.S., has handed to me for description the small but very interesting collection of birds and eggs made by the officers of the 'Discovery' on the island of South Trinidad, accompanied by the excellent notes on the species observed by Dr. Edward Wilson given in the preceding paper.

The species of which examples were obtained on the island and in its vicinity were six in number, as follows :—

1. Sula piscatrix.

Sula piscator (Linn.) ; Saunders, P. Z. S. 1880, p. 163 ; Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 432 (1898).

Sula piscatrix, Sharpe, Hand-l. B. i. p. 236 (1899).

a. ♀ imm. Off South Trinidad, 20° S., 29° W., Sept. 12, 1901. Bill and skin round eye livid bluish ; tarsi and feet almost vermilion-red ; iris dull yellowish (*E. A. W.*).

b. ♂ ad. ; *c*, *d*, *e*. ♀ ad. South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill livid bluish, red at base ; tarsi and feet red ; iris dull yellow (*E. A. W.*).

f. (Egg.) South Trinidad, Sept. 13, 1901.

Of the five specimens obtained, four are in full white plumage and one is in the brown livery of the second year, as correctly surmised by Dr. Wilson, who has sent a beautiful sketch of the head of an adult specimen. The egg is of the usual Gannet type, a light greenish blue, more or less concealed by a chalky covering : axis 2·35 in., diam. 1·75.

Lord Lindsay (now Earl of Crawford) found this bird nesting on the island when he visited it on the 20th of August, 1874, and Mr. E. F. Knight mentions it several times in his "Cruise of the 'Alert.'"

2. Fregata ariel.

Fregata ariel (Gould) ; Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 447 (1898) ; Sharpe, Hand-l. B. i. p. 237 (1899) ; id. Monogr. Christm. Isl., Aves, p. 44 (1900).

a. ♂ imm. Off South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill slate-grey; skin of throat dull red; tarsi and feet dull pink; iris dark brown (*E. A. W.*).

Although this specimen is apparently immature, and has no white collar round the hind-neck, it has the throat greyish and the fore-neck and breast white. Hitherto only the large Frigate-bird (*Fregata aquila*) has been recorded from S. Trinidad (*cf.* Saunders, P. Z. S. 1880, p. 163, and Ogilvie-Grant, Cat. B. Brit. Mus. xxvi. p. 413), where large numbers were seen on the 20th of August, 1874, by the Earl of Crawford, who found the bird nesting on the island. There is, however, no doubt in my mind that the specimen obtained by Dr. Wilson is referable to the smaller Frigate-bird; and in this identification I am supported by Mr. Ogilvie-Grant, who says:—"This is undoubtedly a nearly adult female of *F. ariel*, and is gaining the white collar on the hind-neck." Culmen 3·2 inches; wing 19·4; tail 12·0.

3. Œstrelata trinitatis.

Æstrelata trinitatis, Gigl. & Salvad. Ibis, 1869, p. 65.

Œstrelata trinitatis, Salv. in Rowley's Orn. Misc. i. p. 253, pl. xxxii. (1876); id. Cat. B. Brit. Mus. xxv. p. 413 (1896); Sharpe, Hand-l. B. i. p. 126 (1899).

a. ♂ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi and feet black; iris very dark brown (*E. A. W.*).

b–g. (Eggs.) South Trinidad, Sept. 13, 1901.

This species is easily recognised by its perfectly black tarsus and toes, the middle toe and claw being 1·9 inch in length in the single specimen obtained, which has the general appearance of *Œ. jamaicensis*, but has not the pale rump of that species.

The single white egg procured measures:—Axis 2·5 in., diam. 1·85. It is very large for the size of the bird.

Œstrelata arminjoniana.

Æstrelata arminjoniana, Gigl. & Salvad. Ibis, 1869, pp. 62, 66.

Œstrelata arminjoniana, Salvin in Rowley's Orn. Misc. i.

pp. 234, 252, pl. xxxi. (1876) ; id. Cat. B. Brit. Mus. xxv. p. 413 (1896).

This species was discovered by Dr. Giglioli on South Trinidad during the voyage of the 'Magenta,' and the type was figured by Mr. Salvin in Rowley's 'Ornithological Miscellany' (vol. i. p. 252, pl. xxxi.), but the tarsi and base of the toes are coloured *yellow* in the plate, and do not agree with the original description of Dr. Giglioli and Count Salvadori, which reads as follows :—" Tarsis carneis, digitis ac membrana interdigitali nigris, excepta parte basali intermedia tarso concolori."

The Earl of Crawford procured a specimen of a Petrel on South Trinidad on the 20th of August, 1874, which was identified by Mr. Salvin as *Œ. arminjoniana* in the 'Catalogue of Birds' (*l.c.*), and apparently quite correctly ; but I find, to my great surprise, that it is not of the same species as the white- and grey-breasted Petrels which the officers of the 'Discovery' obtained, though the tarsi and toes are the same in colour. These are much darker birds, blacker above, and with a notably larger bill, and I believe them to belong to an undescribed species, which I have named in honour of the indefatigable young naturalist on the 'Discovery.'

4. Œstrelata wilsoni.

Œstrelata wilsoni, Sharpe, Bull. B. O. C. xii. p. 49 (Feb. 1902).

♀. Similis *Œ. arminjonianæ,* sed nigricantior et rostro crassiore distinguenda ; rostro nigro ; tarsi et digitis palmatis basin versus carneis, terminaliter nigris ; iride saturate brunnea. Long. tota circa 12·5 poll., culm. 1·1, alæ 11·1, caudæ 4·5, tarsi 1·3, dig. med. c. ungue 1·9.

This Petrel has, in my opinion, a light and a dark phase. The latter is dark leaden-grey, and Dr. Wilson, as will be seen above (p. 213), considers this to be the immature and the white-breasted form the adult bird. As, however, both white- and grey-breasted birds have been found sitting on eggs, it is evident that they are adult ; and I believe that the species is dimorphic, and has a white and a grey phase of

plumage. Dr. Wilson's account is very interesting and should be studied.

a. *Grey phase.*

a, *b*. ♂ ad.; *c*. ♀ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi and base of feet pink, outer toe and terminal portion of the other toes and outer part of webs black; iris dark brown (*E. A. W.*).

b. *White phase.*

a, *b*. ♂ ad.; *c*. ♂ in down; *d*. ♀ ad. S.W. Bay, South Trinidad, 20° 30′ S., 29° 20′ W., Sept. 13, 1901. Bill black; tarsi and base of feet pink, outer toe and terminal portion of other toes and outer part of webs black; iris dark brown (*E. A. W.*).

5. Daption capensis.

Daption capensis (Linn.); Gigl. Faun. Vert. Oceano, p. 46 (1870); Salv. Cat. B. Brit. Mus. xxv. p. 428 (1896); Sharpe, Hand-l. B. i. p. 127 (1899).

a. ♀ ad. At sea, 34° 39′ S., 15° 18′ W., Sept. 21, 1901. Bill black; tarsi black, feet black and light blue; iris dark brown (*E. A. W.*).

6. Gygis alba.

Gygis candida (Gm.); Saunders, P. Z. S. 1880, p. 163 (S. Trinidad); id. Cat. B. Brit. Mus. xxv. p. 149 (1896).

Gygis alba, Sparrm.; Sharpe, Hand-l. B. i. p. 138 (1899).

a. ♀ ad. South Trinidad, Sept. 13, 1901. Bill black; feet slate-grey, webs white; iris black (*E. A. W.*).

b, *c*. ♀ ad. S.W. Bay, S. Trinidad, 20° 30′ S., 29° 22′ W., Sept. 13, 1901. Bill black; tarsi slaty blue, toes slaty, webs whitish; iris black (*E. A. W.*).

d, *e*, *f*. (Eggs.) South Trinidad, Sept. 13, 1901. Measurements: axis 1·7–1·8 in., diam. 1·3–1·4.